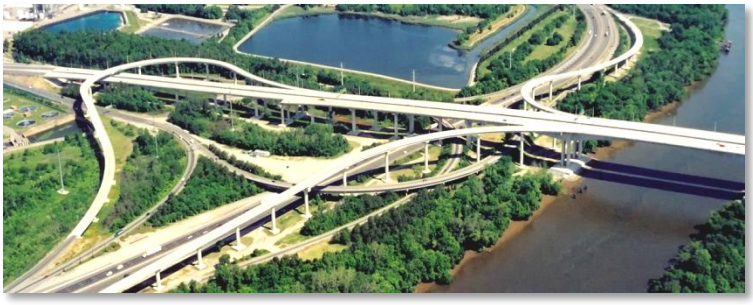
CHAPTER 13: TRANSPORTATION

Overview



The Transportation chapter provides general guidance for transportation decisions and for accommodating growth and development as indicated in The Land Use Plan, improving safety, efficiency and accessibility countywide. Modes of transportation in the county include roads, an airport, trains, pedestrian and bicycle facilities, and limited bus service. Although a more balanced multimodal transportation system (i.e., multiple modes of transport; for example automobile, rail, and bus) is recommended, the automobile is anticipated to be the dominant mode of travel in the county well into the future. This information will be reevaluated in conjunction with each five-year update of the Comprehensive Plan.

Regional and statewide travel is projected to increase concurrently with the growth of the county's population. The number of trips into the county is expected to increase as the population grows and employment expands. The 2010 American Community Survey reported that 81,000, or 53 percent, of the county's workforce commuted to jobs in other jurisdictions. Over time, this commuting pattern may change with additional employment opportunities in the county, resulting in fewer county residents commuting to other jurisdictions and more people entering the county for employment.

Roads-Thoroughfare Plan

In 1932, the county's roads, like roads in most other Virginia counties, became part of the Virginia State Highway System which is managed and maintained by the Virginia Department of Transportation (VDOT). As the county grew and prospered, roads were constructed to accommodate residents and commerce. Between 1998 and 2006, over 200 miles of roads were built, primarily within new county subdivisions, the most of any Virginia locality during that period. As of 2012, VDOT maintains approximately 1,800 miles of roads in the county.

The county proactively plans for road improvements and new transportation facilities based upon anticipated growth and development as suggested on the Land Use Plan Map. Road improvements are made either by the public or private sector. Public sector projects are initiated when traffic conditions, such as congestion or safety, warrant the need and as funding becomes available. Private sector improvements are typically provided in conjunction with development based upon the impact of the project.

The Transportation Department develops a Thoroughfare Plan as part of the Comprehensive Plan. The Thoroughfare Plan identifies the backbone network of existing and proposed roads necessary to reasonably accommodate anticipated traffic generated by development of the entire county at the time of build-out. In addition to widening existing roads, construction of many new roads will be necessary to accommodate future growth. The Plan includes extension of a beltway system with two limited access roads: Powhite Parkway from Charter Colony Parkway to Hull Street Road; and the East-West Freeway from Route 360 to Interstate 95.

The ***Code of Virginia*** requires that a comprehensive plan show corridors of regional or statewide significance, as defined by the Commonwealth Transportation Board in the *Statewide Transportation Plan*. Interstate 95 that extends through the county is designated as a Corridor of Statewide Significance. To qualify, the corridor must meet all of the following criteria:

- Involve multiple modes (highway, rail, inter-regional transit, airport, water port) or is a freight corridor and extends beyond an individual region
- Connect regions/states/major activity centers
- Provide a unique statewide function and/or address statewide goals.

MODELING DEVELOPMENT

Development of a Thoroughfare Plan typically includes traffic modeling. The Transportation Department uses a countywide travel demand model to forecast traffic based upon a specific land use scenario. The results of the modeling include anticipated traffic volumes and levels of service which are used to assist in determining the need for new roads and the widening of existing roads.

Land Use Assumptions

For transportation planning purposes, a land use scenario was used that assumes that the county will ultimately be fully developed ("build-out"). Build-out is expected to take many, many years. The Land Use Plan does not anticipate build-out during the lifecycle of this Comprehensive Plan. However, evaluation of a build-out potential is necessary to establish a foundation for an adequate transportation network should future land uses differ from those recommended for the Rural Residential/Agricultural area. The build-out scenario assumes development based upon the recommendations of the Land Use Plan, except for that area designated for Rural Residential/Agricultural. To plan for possible future growth in the Rural Residential/Agricultural area and the resulting impact on the road network, a land use scenario was developed assuming that at some time in the future public facilities to include public wastewater service would be available to support alternative land uses.

The build-out scenario assumes the following land uses for the Residential/Agricultural area:

- Neighborhood Business uses along Route 360
- Regional Mixed Uses at the interchanges of a proposed East-West Freeway
- Residential development of 2 units to the acre in the remaining area.

The build-out scenario for the Rural Residential/Agricultural area is anticipated to yield approximately 127,000 residential units and 52 million square feet of commercial/industrial uses. It should be recognized that the build-out scenario will exceed current local, state and federal funding for road infrastructure that functions at desired levels of service, therefore, resulting in increased road congestion.

Road Network Assumptions

The existing road network and road improvements committed to by public and private funding were initially evaluated to assess their ability to accommodate anticipated traffic generated by the build-out scenario.

The modeling also assumed various communities' desires to retain the unique character of their area by maintaining some roads in their existing conditions, even if the result would be congestion. These roads include:

- Route 60 through the Village of Midlothian
- Route 10 through Chester Village
- Buford Road
- Forest Hill Avenue
- Old Gun Road
- Old Buckingham Road
- Winterfield Road
- Ruffin Mill Road from Ashton Park Drive to Ramblewood Drive
- River Road through the Village of Matoaca
- Chesterfield Avenue through the Village of Ettrick.

The Transportation Department evaluated the outputs from the modeling which included traffic volumes and levels of service. The Department then determined reasonable road improvements (improvements to existing roads and construction of new roads) necessary to accommodate the forecasted traffic. The number of lanes modeled is not the number that currently exist, but rather the lanes that may be necessary to support build-out development. The roads were then classified based upon their function and right of way width necessary to accommodate the number of lanes for the anticipated traffic volume.

Level of Service (LOS) is a measure of traffic flow operations on a specific road segment. There are six levels of service categories, A through F, used to evaluate roads. Levels of Service A through D are generally considered acceptable, while Levels E and F are considered congested and undesirable.

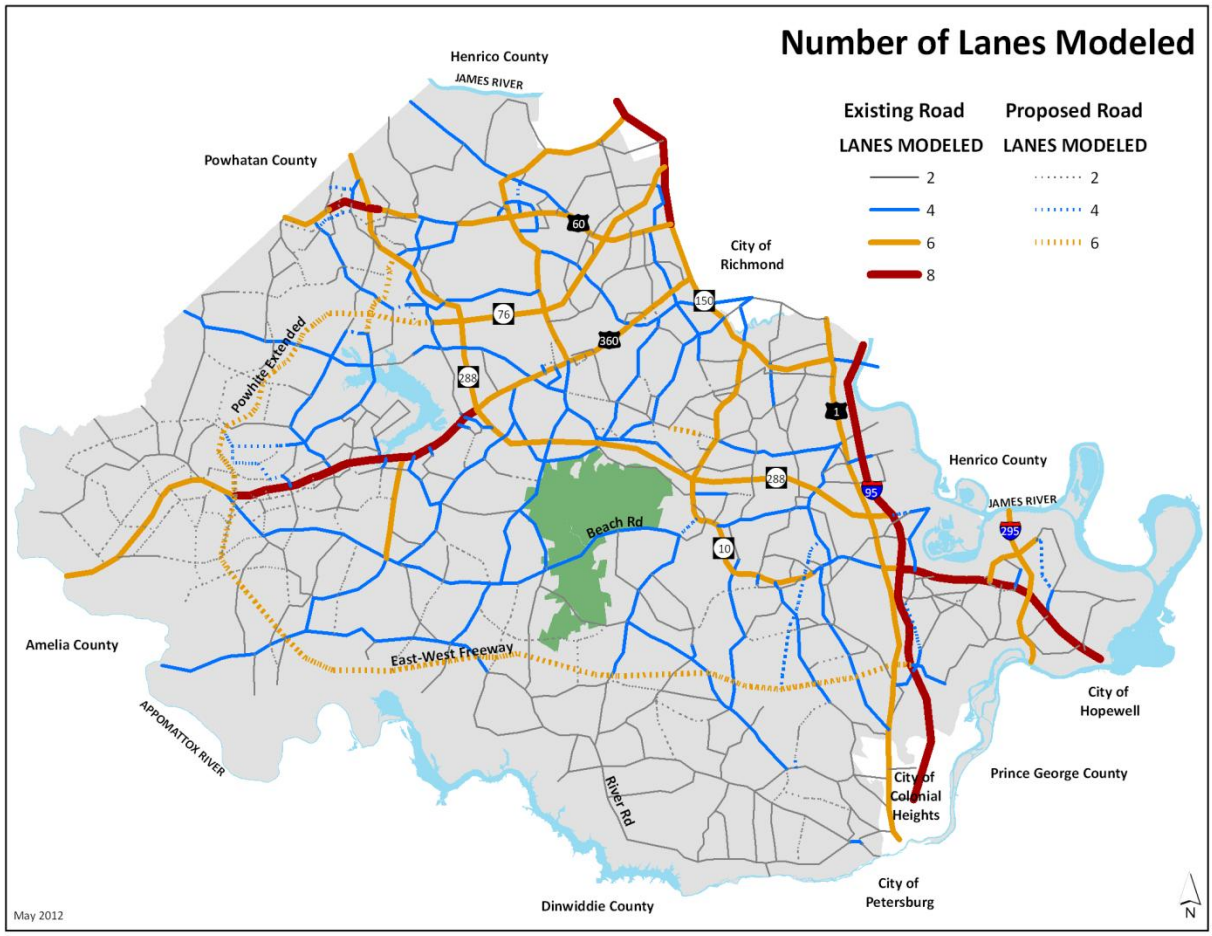
Road Classifications are based upon factors such as traffic volumes and trip type (local or regional). The right of way necessary to accommodate the lanes of pavement for each road classification is then established. Additional right of way width for each classification may be needed for utility relocations, environmental mitigation, grade changes, turn lanes, intersection improvements, transit, and bicycle and pedestrian facilities. The county uses four categories of functional classifications:

- Limited Access roads accommodate high-speed traffic with limited or no access to adjacent property, have some degree of separation of opposing traffic flow, and are generally accessed by interchanges. These roads typically have a right of way width of 200 feet, generally accommodating six travel lanes. Interchanges may require 90 to 100 acres of right of way. Additional right of way may be needed to accommodate additional lanes of pavement or collector-distributor roads at interchanges.

- Major Arterial roads accommodate high volumes of traffic, and provide primary connections between neighborhoods and employment/retail centers and to limited access roads. The county has two classifications for major arterials, the first having a right of way width of 90 feet, generally accommodating four travel lanes, and the second having a right of way width of 120 to 200 feet, generally accommodating six to eight travel lanes.

- Collector roads route traffic to and from major arterials and accommodate traffic within and between neighborhoods and commercial/industrial developments. The county has two classifications of collector roads, the first having a right of way width of 60 feet, generally accommodating two travel lanes, and the second having a right of way width of 70 feet, generally accommodating two or four travel lanes.

- Local roads accommodate low traffic volumes within and between neighborhoods and commercial/industrial developments. These roads typically have a right of way width of 50 to 60 feet generally accommodating two travel lanes. New local roads are not identified on the Thoroughfare Plan. The need for these roads will be determined on a case by case basis through the development review process.



MODELING RESULTS

A Thoroughfare Plan was developed based upon the results of the modeling and the Transportation Department's evaluations. Solving all peak hour traffic congestion by increasing road capacity is not always the right solution. Sometimes, the negative impacts of road widening on adjacent properties or the benefits of economic development outweigh achieving acceptable levels of service. To that end, the Thoroughfare Plan does not address all projected capacity needs. It is expected that the long-term build-out scenario will result in various levels of congestion, including Levels of Service E and F. However, implementation of the Thoroughfare Plan should provide a reasonable level of mobility.

As previously noted, the Thoroughfare Plan identifies the backbone network of roads necessary to reasonably accommodate anticipated traffic resulting from development of the entire county at the time of build-out. This backbone network includes approximately 600 miles of existing roads and 160 miles of proposed roads. Generally, the Plan will be implemented in phases as development occurs.

The Thoroughfare Plan is a general guide. During the development review process that may include more detailed analysis, the Transportation Department may recommend modifications to the road network, road alignments and rights of way widths, provided the adjustments meet the spirit and intent of the Comprehensive Plan.

Road Improvements

The road improvements identified by the Transportation Department are anticipated to generally support the growth and development suggested by the Land Use Plan. To accommodate growth and development, the Thoroughfare Plan identifies the need to improve existing roads and to construct new roads. Some of the existing roads will require additional lanes of pavement to reasonably accommodate the traffic impact of the build-out scenario.

Intersection Improvements

Based upon forecasted traffic volumes, existing intersections may need to be grade separated. Grade separated intersections are those that bridge one road over or under another road. Some of these intersections are:

- Route 60/Huguenot Road/Courthouse Road
- Route 360/Courthouse Road
- Route 360/Old Hundred Road/Commonwealth Centre Parkway
- Route 1/Route 10
- Route 10/Meadowville Road/Old Bermuda Hundred Road.

Powhite Parkway Extension

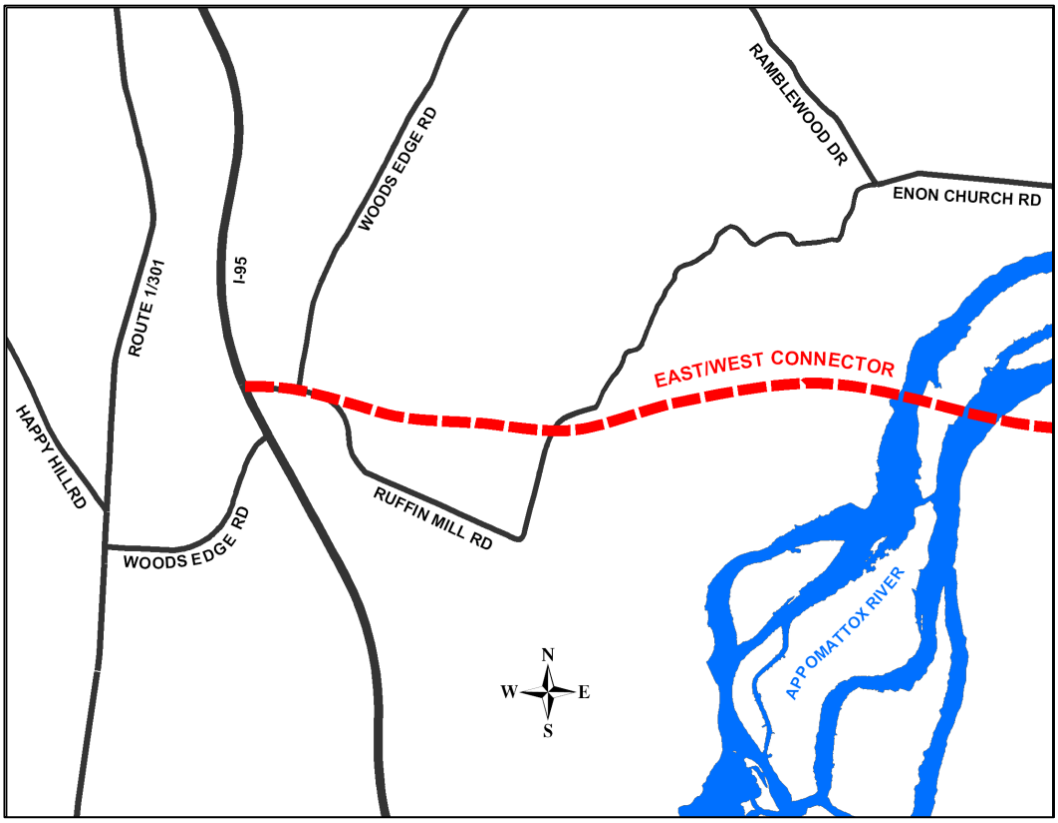
The Powhite Parkway Extension to Woolridge Road Extended, Woolridge Road Extended, the widening of Woolridge Road to Otterdale Road and the widening of Otterdale Road to Hull Street Road should be a priority for the county. The Powhite Parkway Extension from Woolridge Road Extended to Hull Street Road, while an important element of the Thoroughfare Plan, is not a priority at this time. The Powhite Parkway Extension should only be constructed when necessary to accommodate established traffic demands, and then only when it is a public priority. Tolls are undesirable.

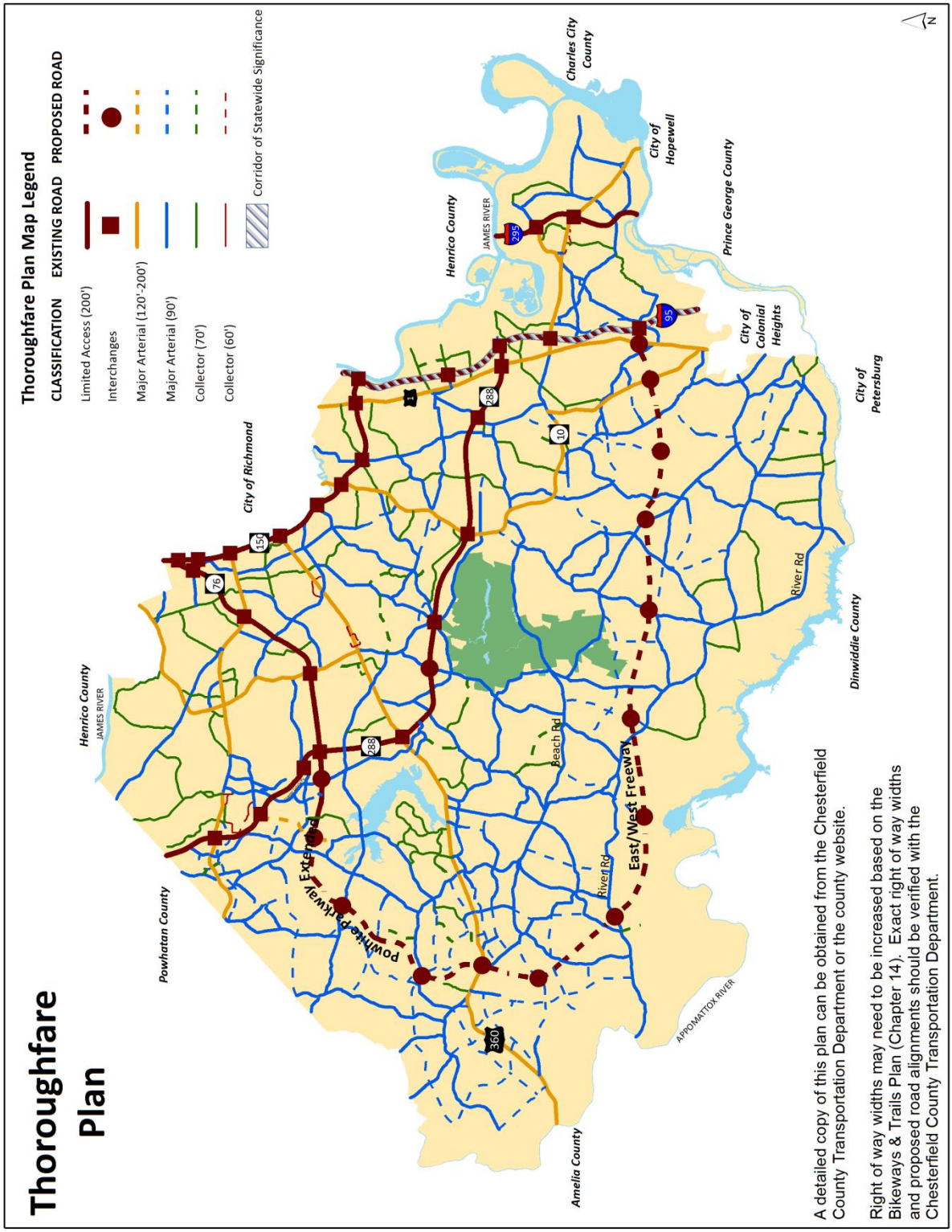
East/West Connector

Interstates 95 and 295 are major north/south routes that carry regional traffic through the eastern area of the county. Route 10 from Interstate 95 to the Appomattox River is the major east-west highway serving the area, and carries a mix of local and regional traffic. Even after completion of planned improvements to Route 10, this highway will not accommodate anticipated traffic volumes. Another east-west facility is needed in this area of the county. This connection would improve access to area development and help reduce regional traffic on Route 10 between Interstate 95 and Interstate 295, and on other roads such as Woods Edge Road and Old Bermuda Hundred Road.

Because much of this area has been developed or approved for development, this east-west facility would have to be located between Interstates 95 and 295 in the Walthall area. A connector road in this area would include a major bridge structure across the Appomattox River. State funding would have to be provided for construction of this connector road. No public funds are anticipated to become available in the foreseeable future for a major project of this type. Staff will work with developers to keep a corridor open for the facility, if possible. However, staff will not restrict or prohibit development in the Walthall area in order to protect the corridor. Developer participation will be strictly on a voluntary basis.

This proposed east-west connector is not included on the Thoroughfare Plan. At such time as public funding becomes available, the alignment of this road will be determined with strong consideration of existing development in the area.




Thoroughfare Plan
Thoroughfare Plan Map Legend
CLASSIFICATION
EXISTING ROAD
PROPOSED ROAD
Limited Access (200')
Interchanges
Major Arterial (120'-200')
Major Arterial (90')
Collector (70')
Collector (60')
Corridor of Statewide Significance
Henrico County
JAMES RIVER
City of Richmond
Powhatan County
Powhite Parkway Extension
Beach Rd
River Rd
East/West Freeway
Amelia County
APPOMATTOX RIVER
Dinwiddie County
City of Petersburg
City of Colonial Heights
Prince George County
City of Hopewell
Charles City County
A detailed copy of this plan can be obtained from the Chesterfield County Transportation Department or the county website.
Right of way widths may need to be increased based on the Bikeways & Trails Plan (Chapter 14). Exact right of way widths and proposed road alignments should be verified with the Chesterfield County Transportation Department.

FUNDING

The ***Code of Virginia*** requires that a cost estimate for road improvements be provided in comprehensive plans. For the purposes of this planning effort, improving existing roads to achieve an acceptable of Level of Service D or better by the time of build-out is estimated at approximately $5.8 billion in construction cost.

Funding for road improvements predominantly comes from taxes, primarily gasoline tax. These funds are augmented through bond referendums, cash proffers and the Capital Improvement Program. The majority of road funds for localities throughout the state are allocated by the Virginia Commonwealth Transportation Board. These funds are administered by the Virginia Department of Transportation. In 2012, the average cost to widen a road from two lanes to four lanes is $8.0 million per mile, and to widen a road from two to six lanes is $12.3 million. Over the next six years, local, state and federal funds for county road construction improvements are anticipated to average approximately $26.5 million per year. The county aggressively competes with other jurisdictions for funding from various programs. The Transportation Department evaluates road capacities, accident information and development patterns to justify funding for improvements to the most deficient road sections.

The Board of Supervisors, jointly with the Virginia Department of Transportation, annually establishes priorities for the construction and improvement of secondary roads in the county through the adoption of a Secondary Road Six-Year Improvement Plan. The Board of Supervisors also annually adopts county priorities for primary and interstate road improvements, and requests the Commonwealth Transportation Board to fund the priorities. The Commonwealth Transportation Board establishes statewide priorities by allocating funding through the adoption of a Six-Year Improvement Program.

The ***Code of Virginia*** permits the Commonwealth Transportation Board to make an equivalent matching allocation to any county of up to $10.0 million in funds to construct, maintain, or improve primary and secondary highway systems.

In most instances, the cost of new road construction and improvements to existing roads to mitigate traffic impacts from individual development is borne by the private sector. Road improvements necessary to adequately serve significant economic development sites may be too expensive for a single developer, necessitating special funding through a Transportation District or Community Development Authority. These districts or authorities generally place an additional tax on property within an identified area such as those identified as “Economic Development Opportunity Sites” in the Economic Development chapter.

A Transportation District (“Powhite Parkway-Charter Colony Parkway Interchange Service District”) has been established to improve transportation services primarily for the CenterPointe, Waterford and Acropolis Developments. The District will provide funds to construct a single point urban interchange at the intersection of Powhite and Charter Colony Parkways and widen a part of Powhite Parkway. The road improvements identified in the District should be constructed as soon as funding is available.

A Community Development Authority ("Lower Magnolia Green Community Development Authority") has also been established to assist in addressing the traffic impact for part of the Magnolia Green Development. The Authority will assist in financing and constructing the widening of Otterdale Road from Hull Street Road to Woolridge Road and widening of Woolridge Road from Otterdale Road to the four lane section of Woolridge Road. The county is responsible for bearing the cost of acquiring the necessary right of way. Additional financing could include cash proffers or appropriations from other sources, as determined by the Board of Supervisors. Developers will also assist in financing or constructing improvements as development occurs. The road improvements identified in the Authority should be constructed as soon as funding is available.

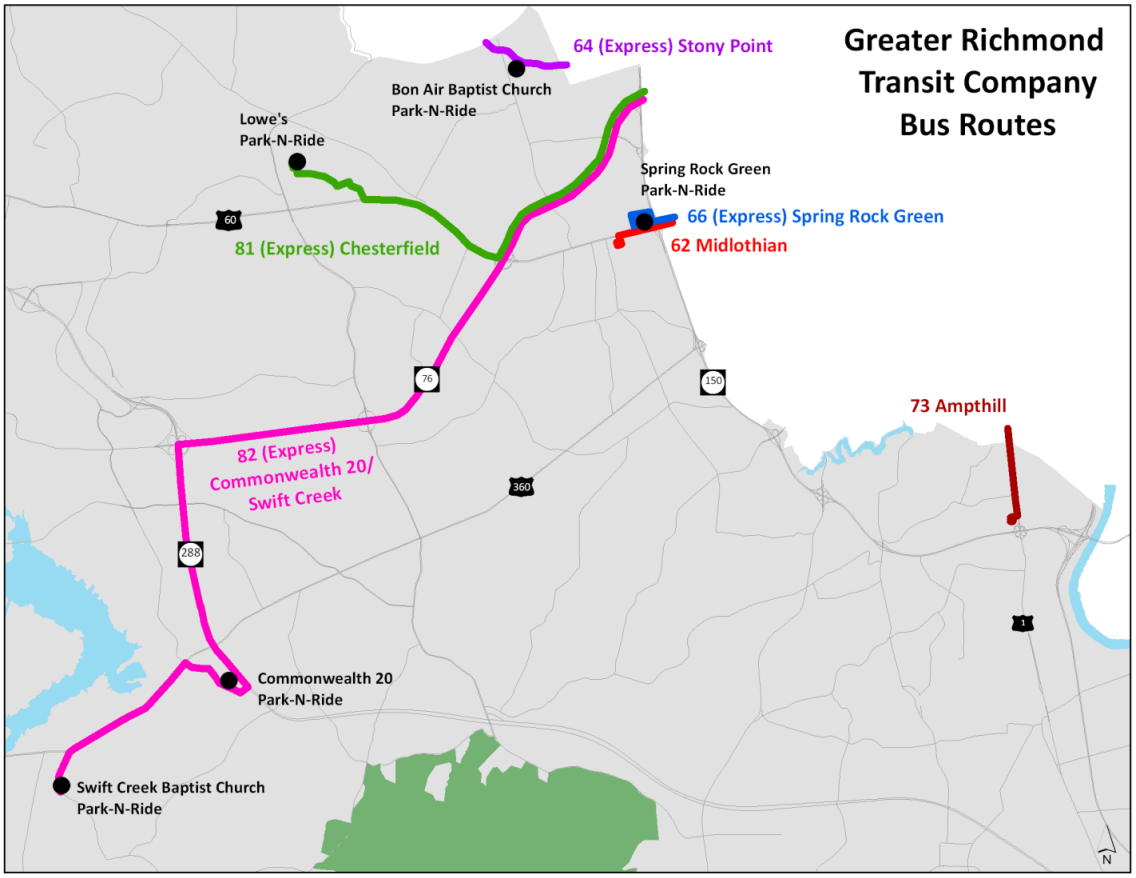
Transit

Alternative modes of transportation such as buses, carpools and rail enhance mobility.

BUS SERVICES

Greater Richmond Transit Company (GRTC)

Greater Richmond Transit Company (GRTC), a major provider of bus service in the Richmond region, was established in 1973. GRTC was originally owned by Richmond. In 1989, the county acquired half of ownership in an effort to address regional transportation needs. Henrico was offered ownership opportunity, but chose not to participate. The overall direction of GRTC is guided by its Board of Directors, consisting of equal representation from Richmond and Chesterfield. As of 2012, GRTC has six routes extending into the county.



Petersburg Area Transit (PAT)

The Petersburg Area Transit (PAT) predominantly operates in the Petersburg, Colonial Heights and Hopewell areas and extends to the Ettrick and Virginia State University area. In partnership with Greater Richmond Transit Company (GRTC), PAT also provides service to other destinations accessible by GRTC. This combination of routes enhances accessibility of the southern area of the county to and from surrounding jurisdictions and Fort Lee.

RideFinders

RideFinders is a division of the Greater Richmond Transit Company (GRTC) that helps match commuters having similar work locations and hours who wish to share rides. Ride sharing includes private carpools and van services.

Access Chesterfield

Access Chesterfield, a county coordinated and funded van program, provides transportation services to low-income, disabled and elderly county residents. In Fiscal Year 2012, the county appropriated approximately $1.3 million for Access Chesterfield. Under the current program, residents with medical or employment related needs are transported to areas within the county and the cities of Richmond, Petersburg, Hopewell and Colonial Heights. The service can also be used for trips that are not medical or employment related; however, travel is limited to within the county.

PASSENGER RAIL SERVICE

A passenger rail station, Ettrick Station, located in the southeastern part of the county, is owned by CSX Transportation and leased by Amtrak. Amtrak trains run daily, providing passenger service by two routes:

- Carolinian/Piedmont service between New York City and Charlotte with stops in Philadelphia, Washington, Richmond and Ettrick.
- Silver Service/Palmetto service between New York City and Miami with stops at various locations along the east coast such as Washington, Charleston, Jacksonville and Orlando.

A new passenger service between Richmond and Hampton Roads with stops at the Ettrick Station is anticipated to begin in December 2012. With this new service and the expansion of Virginia State University, the Ettrick Station may experience a substantial passenger increase.

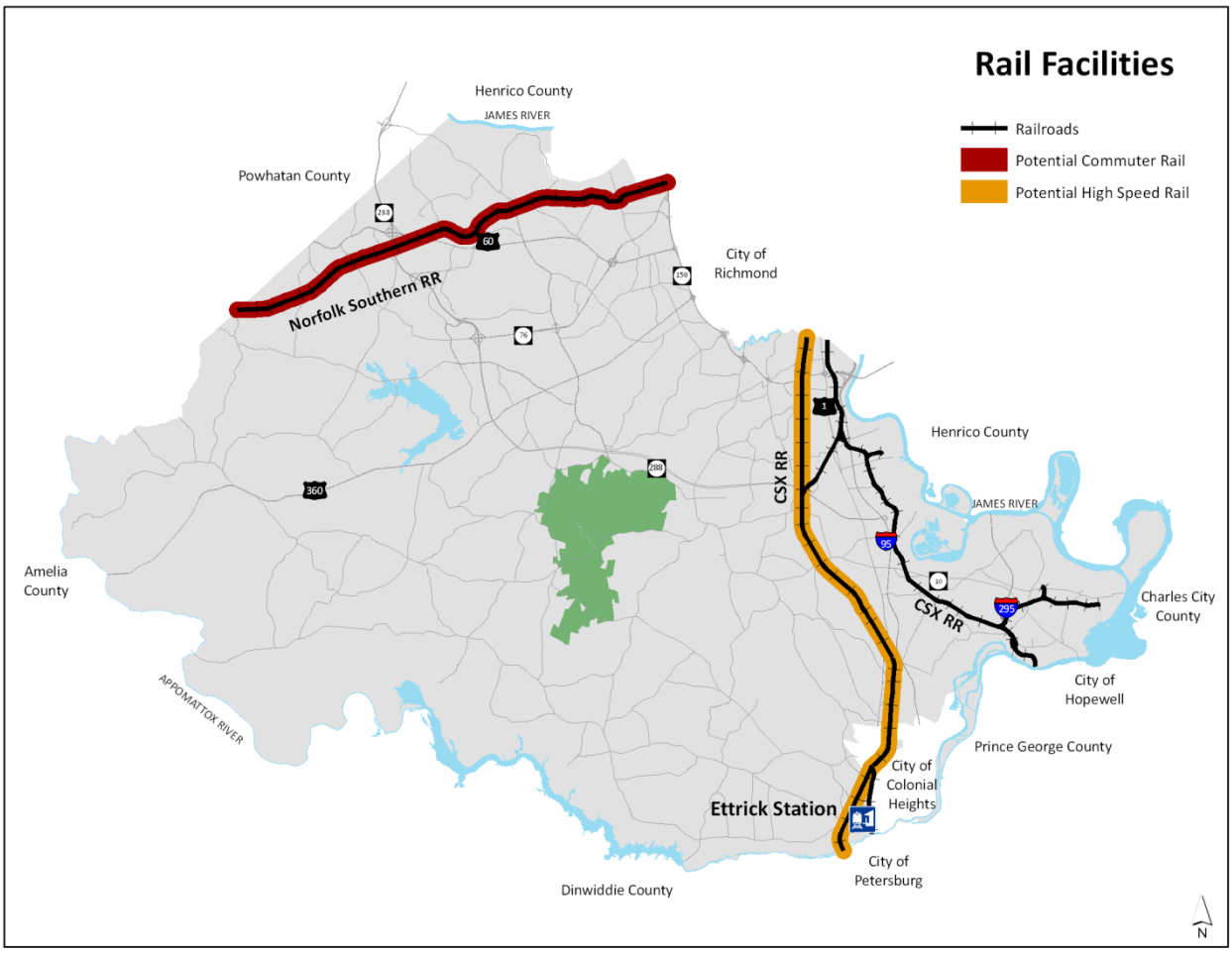
In addition to the CSX tracks, Norfolk Southern owns tracks in the county. While both have the potential to provide regional commuter rail service, a 2003 Richmond Metropolitan Planning Organization study identified the Norfolk Southern Railroad corridor in the northern part of the county as having the greatest potential for future commuter rail service. This future service could possibly extend into Powhatan County and further west.

The *Intermodal Surface Transportation Efficiency Act of 1991* authorized planning and development of high speed rail corridors nationwide. The Richmond region is located on one of five original national corridors, the Southeast High Speed Rail (SEHSR) corridor from Washington to Raleigh. The SEHSR corridor plan proposes improvements in two phases:

- Washington to Richmond (Main Street Station)
- Richmond (Main Street Station) to Raleigh with planned stops in Ettrick.

FREIGHT RAIL SERVICE

Two freight railroads, CSX and Norfolk Southern, provide service to major consumer markets in the north, south and mid-west. CSX and Norfolk Southern Railroads provide a network of approximately 20,000 miles of track in 22 states and the District of Columbia and serve every major container port in the eastern United States. On-site freight rail service, via CSX railroad, is available for developments in the eastern part of the county. The Economic Development chapter provides more information regarding developments that are served by direct rail access.


Rail Facilities
Railroads
Potential Commuter Rail
Potential High Speed Rail
Henrico County
JAMES RIVER
Powhatan County
Norfolk Southern RR
City of Richmond
CSX RR
Henrico County
JAMES RIVER
Amelia County
CSX RR
Charles City County
City of Hopewell
APPOMATTOX RIVER
Prince George County
City of Colonial Heights
Ettrick Station
City of Petersburg
Dinwiddie County
N

Pedestrian and Bicycle Facilities

Bicycle and pedestrian facilities provide alternative forms of mobility and recreation for a community. The county has several different types of pedestrian and bicycle facilities. These facilities may be part of the Virginia Department of Transportation (VDOT) system, the county park system or may be privately owned and maintained. Chapter 14 Bikeways and Trails contains information and recommendations on appropriate facility types and the overall network map.

SIDEWALKS

Public Sidewalks

Public sidewalks are those that are maintained by the Virginia Department of Transportation and are located within public rights of way. These sidewalks are located parallel to a road and typically separated from vehicular traffic by curb and gutter, drainage ditches and sometimes landscaped areas. These facilities may be constructed with public projects or by the private sector as a part of development projects.

Funding for public sidewalk projects comes from various sources. Many public sidewalk projects along existing roads are federally funded, with administration of the funds through the Virginia Department of Transportation's Bicycle and Pedestrian Safety Program. Given limited funding, the county focuses on providing public sidewalk projects where there is evidence of high pedestrian activity. Since 2000, sidewalk projects with limited scope have been constructed with an additional 12 sidewalk projects having limited scope planned within the next several years.

For roads constructed as part of new residential developments, the Virginia Department of Transportation's (VDOT) Secondary Street Acceptance Requirements establish sidewalk criteria along roads that will become part of the state system. Sidewalks are generally required based on lot sizes and anticipated traffic volumes. Further, the Subdivision Ordinance requires construction of sidewalks along:

- Major arterial and collector roads
- Residential collector roads
- Local through roads within one-half mile walking distance of pedestrian attractions such as public schools and libraries, neighborhood recreational facilities or commercial uses.

Private Sidewalks

Within individual developments, sidewalks located outside of public rights of way generally provide walking connections between uses within a project and area developments. These sidewalks are built by the private sector and are maintained by the development owner or an owners' association. The Zoning Ordinance requires that the need for sidewalks within non-residential and mixed use developments be determined through the development review processes. During the zoning process, additional sidewalk amenities could be stipulated.

Other Transportation Modes

AIRPORTS

Richmond International Airport (RIC), a full-service airport with over 150 daily flights, is located 15 to 30 minutes from most areas in the county. It is owned and operated by the Capital Region Airport Commission. The Commission, which was established in 1975 and is governed by representative from area jurisdictions including Chesterfield County, directs the growth, operation and business activities of RIC. The airport has evolved into one of the most modern and well-equipped airports in the eastern United States.

Chesterfield County Airport (FIC) is located at the Route 288 and Route 10 interchange, within two miles of the County Government Center. The airport is designated by the Federal Aviation Administration (FAA) as an official general aviation reliever airport for Richmond International Airport (RIC). FIC has a 5,500-foot runway with an Instrument Landing System and associated lighting that provides all-weather operations. There are plans for expansion of the runway. Additional information regarding the Chesterfield County Airport can be found in the Economic Development and Public Facilities Plan chapters.

WATER PORTS

The Richmond region is within 100 miles of the Port of Virginia at Hampton Roads. It is the third largest container port and offers the deepest shipping channels on the United States east coast. The Port of Virginia is a hub for the world's leading international shipping companies, with global service from more than 75 international shipping lines and 3,000 sailings annually to 100 countries.

The Port of Richmond is in close proximity to the county, and easily accessible by rail or truck. The Port is a domestic and international freight and distribution center serving the mid-Atlantic region. As an alternative to truck freight shipment, barges carry goods and material between Hampton Roads and Richmond. This barge service removes truck container traffic off local roads and highways. The Port of Richmond currently handles 6,000 shipping containers a year, which removes about 12,000 truck trips a year from the roads.

General Transportation Guidelines

The General Transportation Guidelines assist in planning, coordinating and implementing a multimodal transportation system for the county that is consistent with the values of the community, and assist in formulating recommendations for specific development proposals.

Major considerations in the development of these guidelines include:

- A safe, efficient and cost effective transportation system.
- A transportation system that supports existing and future development patterns.
- Multimodal transportation and mobility needs for people and commerce.
- Bicycle and pedestrian accommodations in the planning and design of road improvements, where appropriate.
- Acquiring rights of way to accommodate travel demands including future multimodal transportation infrastructure.

The following General Transportation Guidelines should be used when addressing specific development proposals and when making other transportation decisions:

- **Funding.** Seek any and all funding opportunities for planning, coordinating and implementing a comprehensive transportation system.

- **Levels of Service.** Monitor levels of service relative to traffic congestion changes to assist in identifying and prioritizing needed transportation improvements.

- **Zoning and Development Proposals.** Support development proposals that:
  - Manage density and land uses based upon more detailed studies than those done for the Comprehensive Plan. Such proposals should provide for mitigating transportation improvements that adequately address the traffic impact of the proposed development.
  - Provide for road improvements and right of way dedications in conformance with the Thoroughfare Plan.
  - Demonstrate that an acceptable level of service will be achieved with the provision of agreed upon and committed transportation improvements.
  - Limit the number of direct accesses and proposed road intersections along major arterial and collector roads.
  - Provide access management that meets or exceeds VDOT guidelines, and emphasizes appropriate local access while balancing traffic safety and road capacity.
  - Achieve development integration in accordance with The Land Use Plan chapter to improve local traffic movements and pedestrian accessibility.
  - Encourage new developments to provide bikeways, sidewalks and other pedestrian facilities where appropriate.

- Encourage Park-and-Ride lots at appropriate locations that maximize their use.
- Encourage context sensitive designs in areas designated on the Land Use Plan Map for compact development or mixed uses.

➢ **Transit.**

- Explore options to meet community and commerce needs.
- Explore expanding transit to serve those with special needs.
- Support bus and rail service, as needed, in mixed use areas identified on the Land Use Plan Map.
- Support commuter and light rail services to include the Ettrick Station and potential stations such as Jahnke/Chippenham, Bon Air, Robious/Huguenot, Midlothian Village, Watkins Centre Parkway and Old Hundred Road/Midlothian Turnpike areas.
- Support expansion of Ettrick Station as a multimodal center to accommodate the anticipated increase in passenger services, and the growth and revitalization of the Ettrick/Virginia State University area.

➢ **Special Area Transportation Needs.**

- Consider proactive detailed transportation planning and funding sources for "Economic Development Opportunity Sites" identified in the Economic Development chapter.
- Consider detailed transportation planning in conjunction with the development of Special Area Plans.

➢ **Sidewalks.**

- Consider provision of sidewalks and other pedestrian accommodations in planning and designing major road improvements.
- Support the provision of sidewalks in residential and mixed use areas.
- Support the provision of sidewalks that connect to schools, parks, retail centers, other community facilities and the Linear Parks and Trails system identified in The Public Facilities Plan chapter.